

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**

FIG. 1

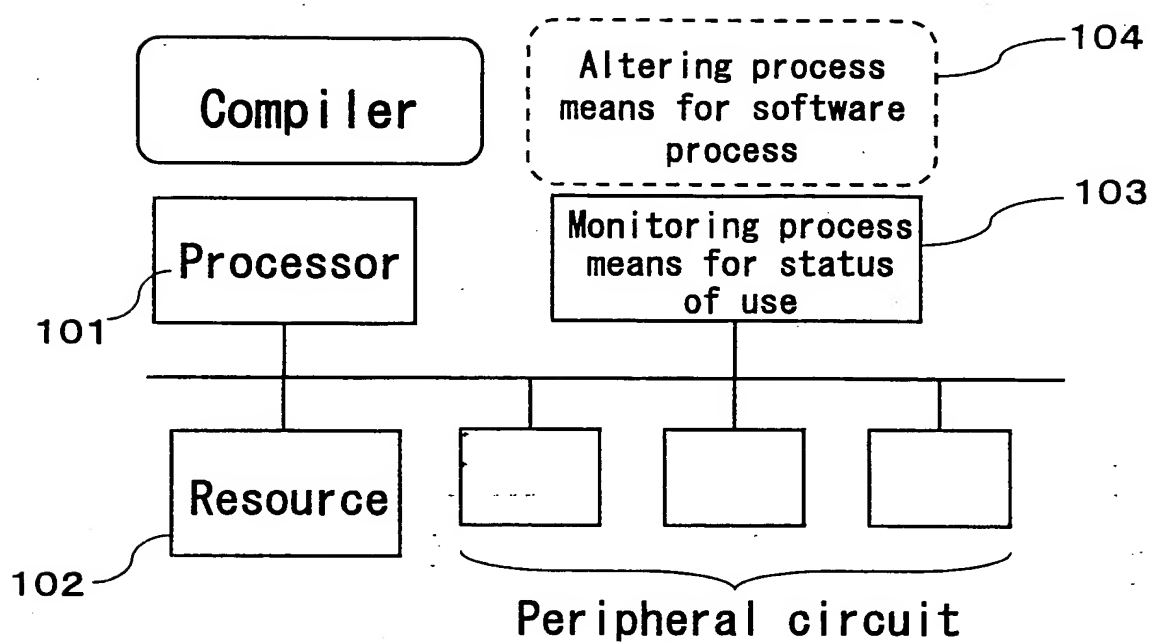


FIG. 2

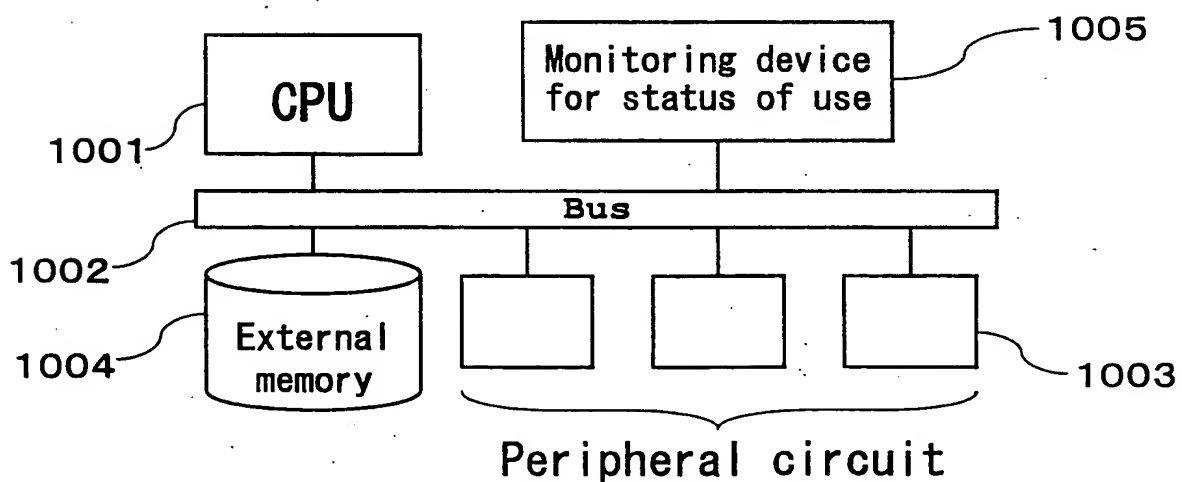
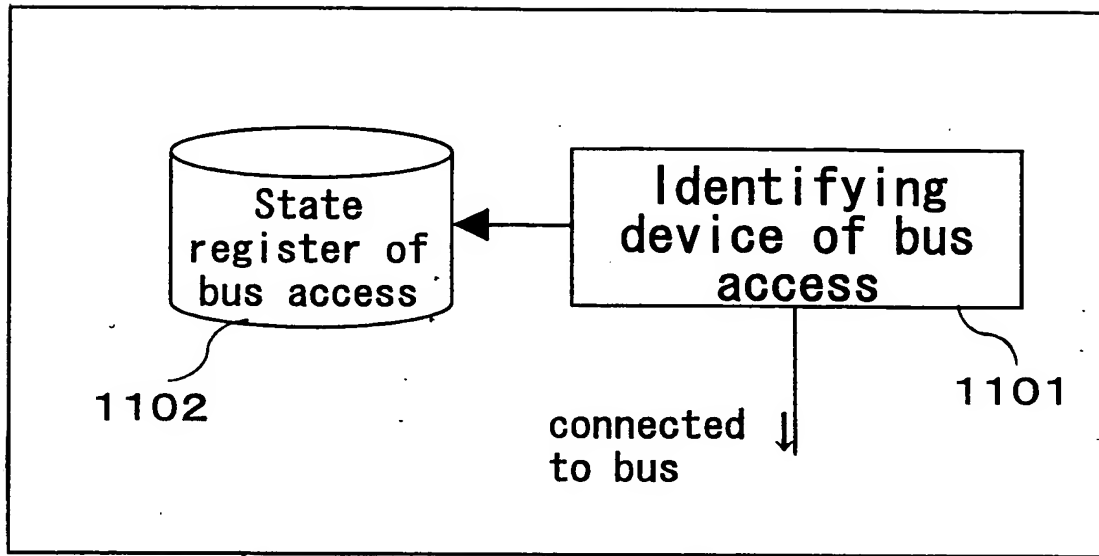


FIG. 3



1005 Monitoring device  
for status of use

FIG. 4A

1201

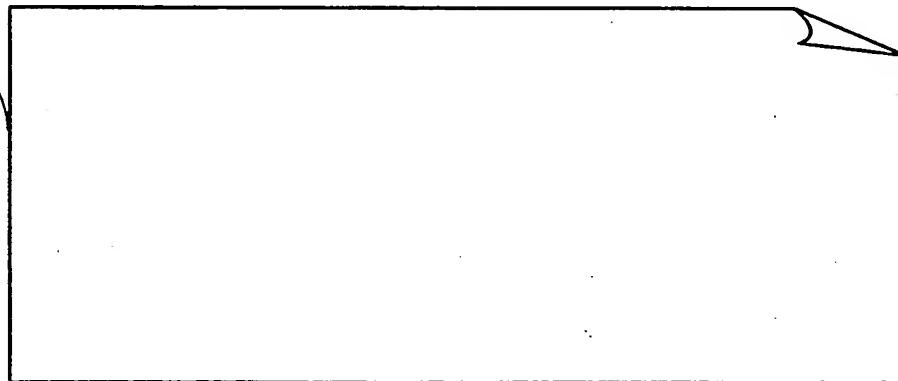


FIG. 4B

1201

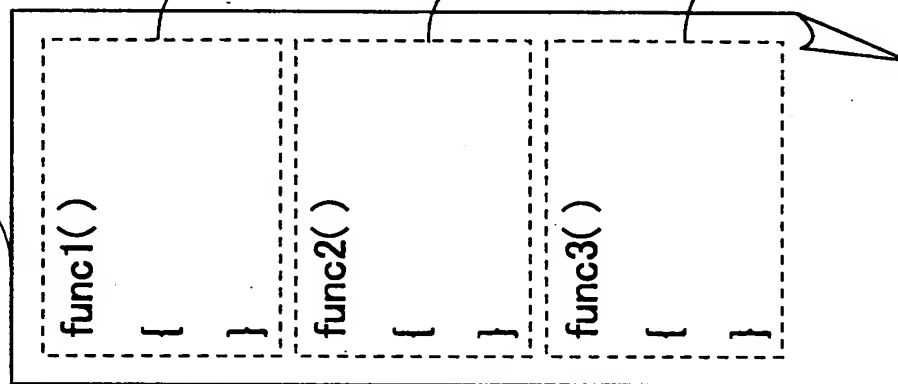


FIG. 4C

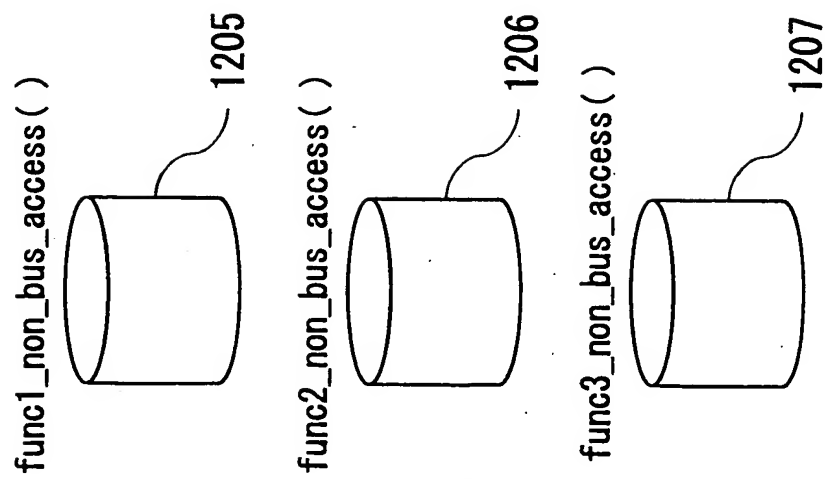


FIG. 5

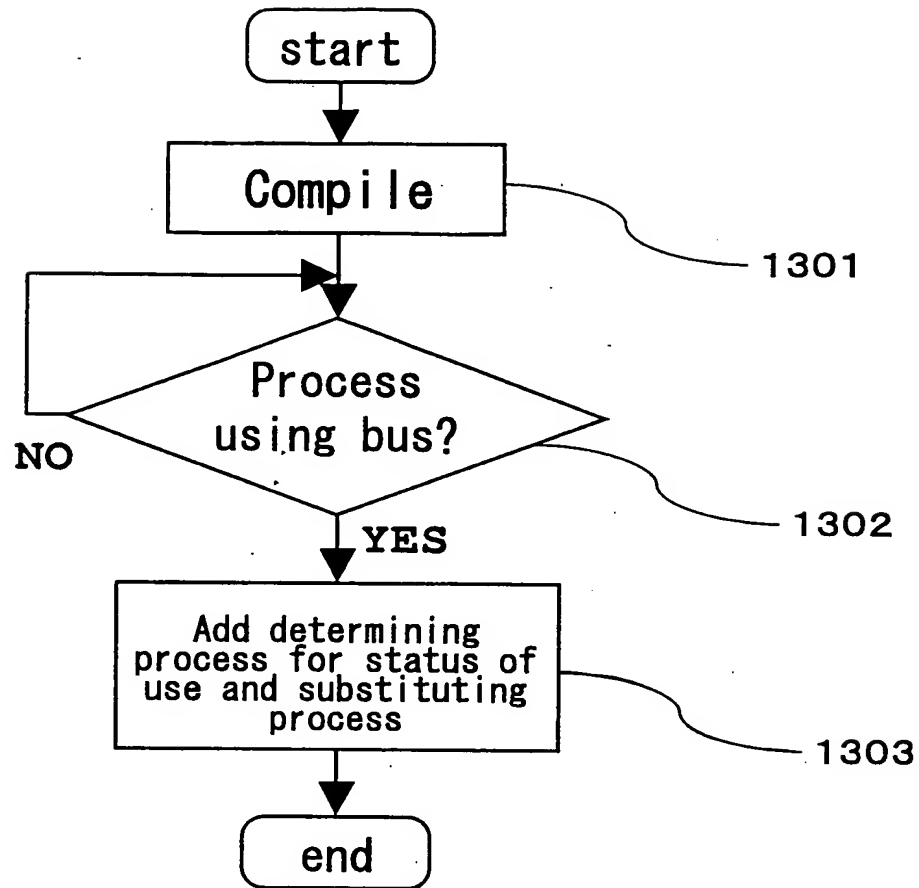


FIG. 6

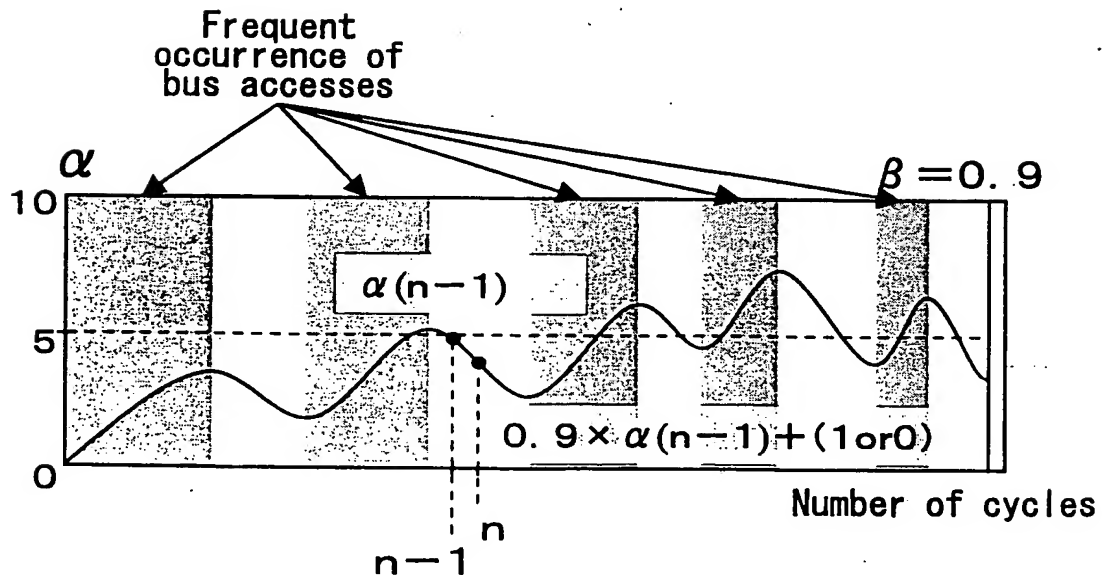


FIG. 7A

```

main( )
{
    :
    :
    Func1( )
    :
    Func2( )
    :
    func3( )
    :
    :
}
:
:

```

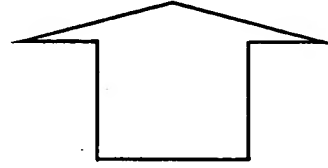


FIG. 7B

```

Func1( )
{
    if (bus access is occurring)
        func1_non_bus_access( );
    else
        func1( );
}
Func2( )
{
    if (bus access is occurring)
        func2_non_bus_access( );
    else
        func2( );
}
:
:

```

FIG. 8

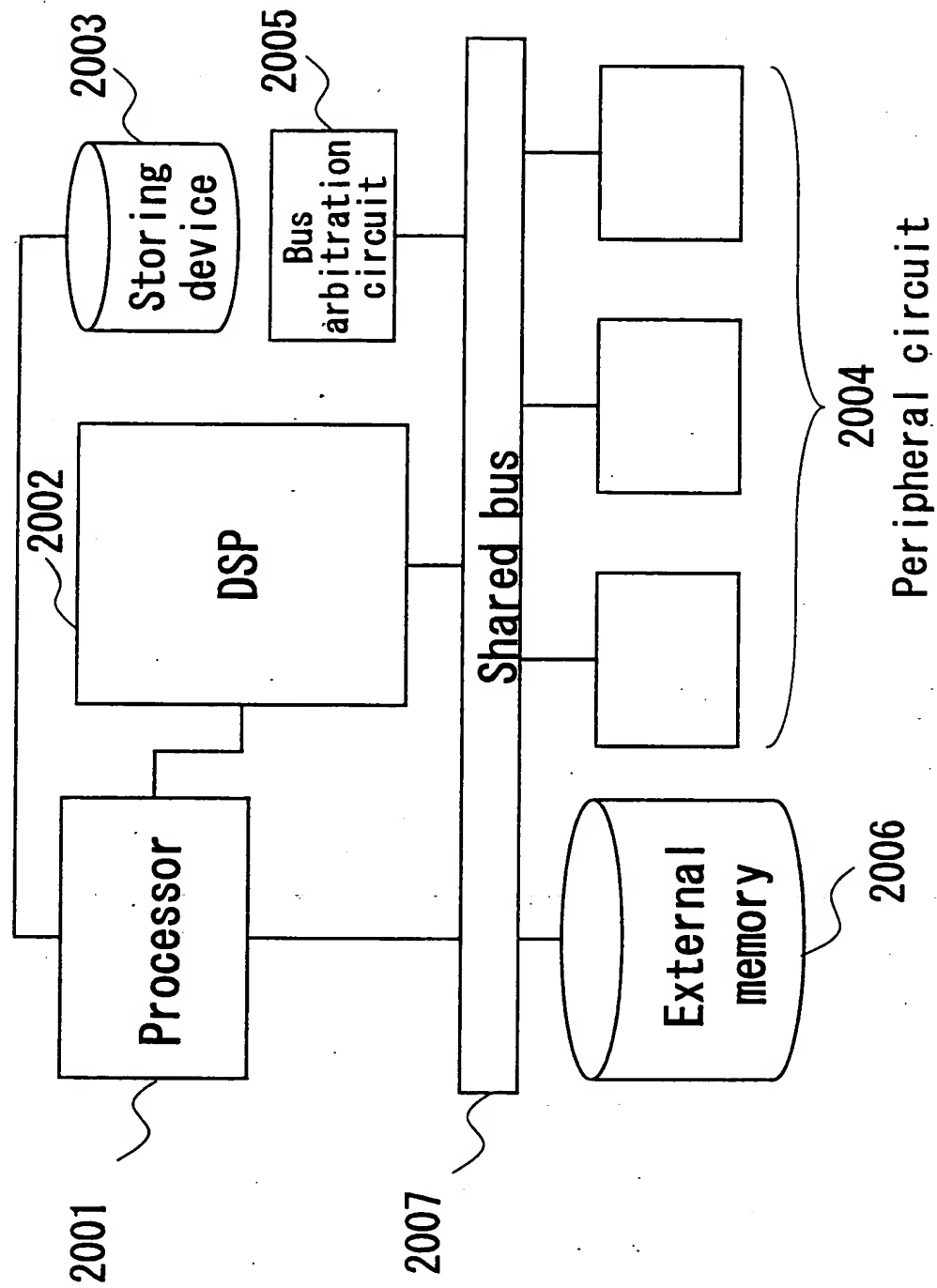


FIG. 9

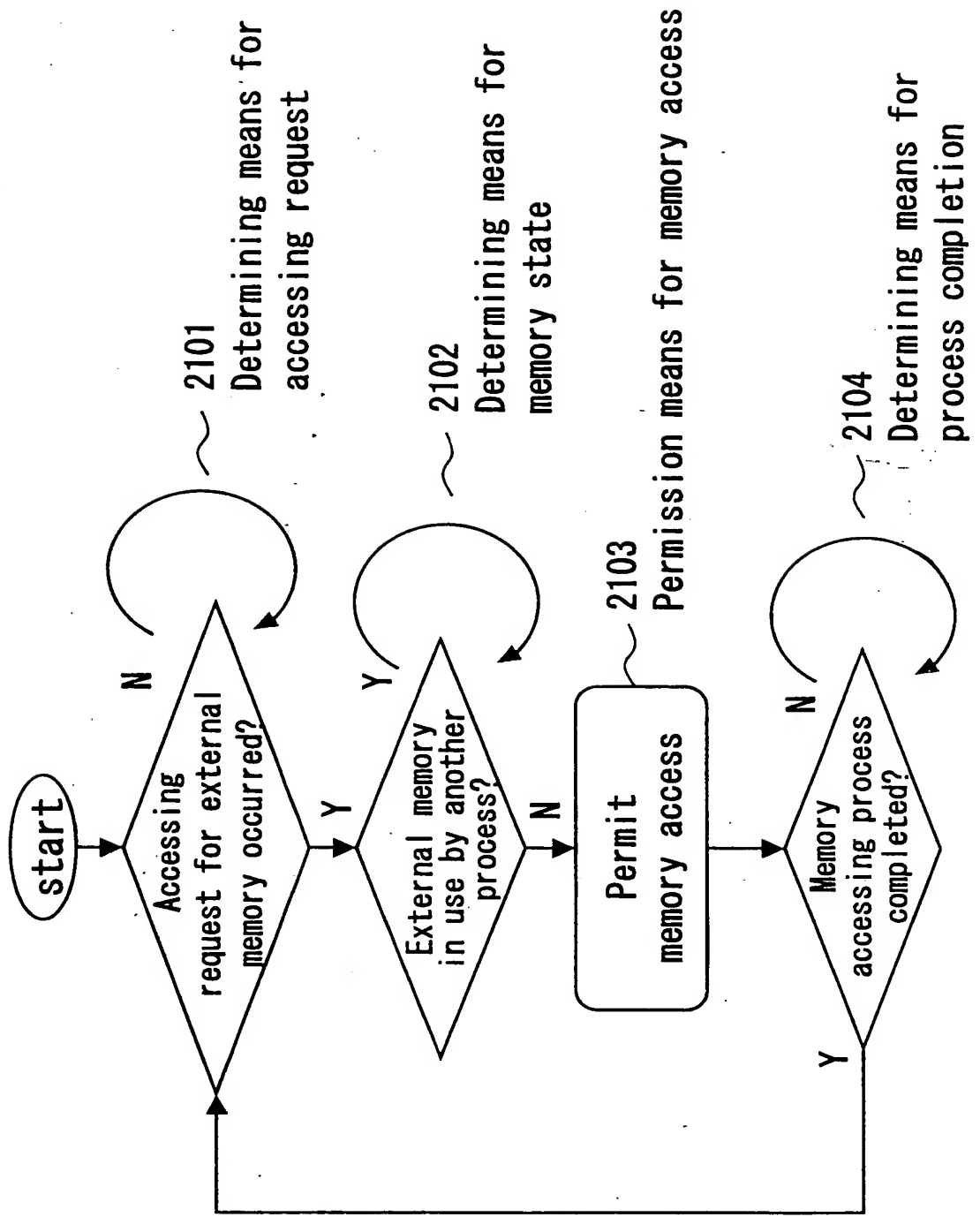




FIG. 10

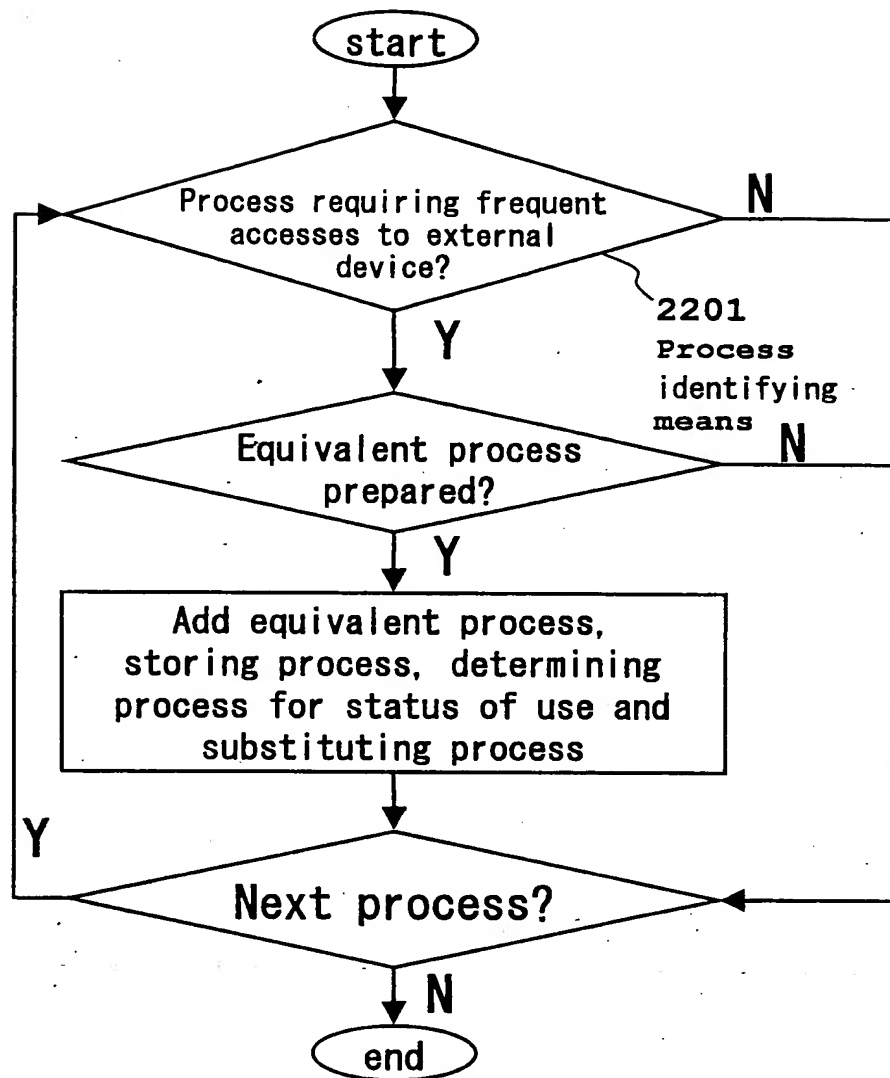


FIG. 11A

```
1: proc_task1() {  
2:     mem_acs_many();  
3: };
```

Prior to compiler execution

FIG. 11B

```
1: proc_task1() {  
2:     if( task_time < DEFINED_TIME ) {  
3:         start_time = timer_count;  
4:         mem_acs_many();  
5:         end_time   = timer_count;  
6:         task_time = end_time - start_time;  
7:     }  
8:     else{  
9:         mem_acs_few();  
10:    };  
11: };
```

After compiler execution

FIG. 12

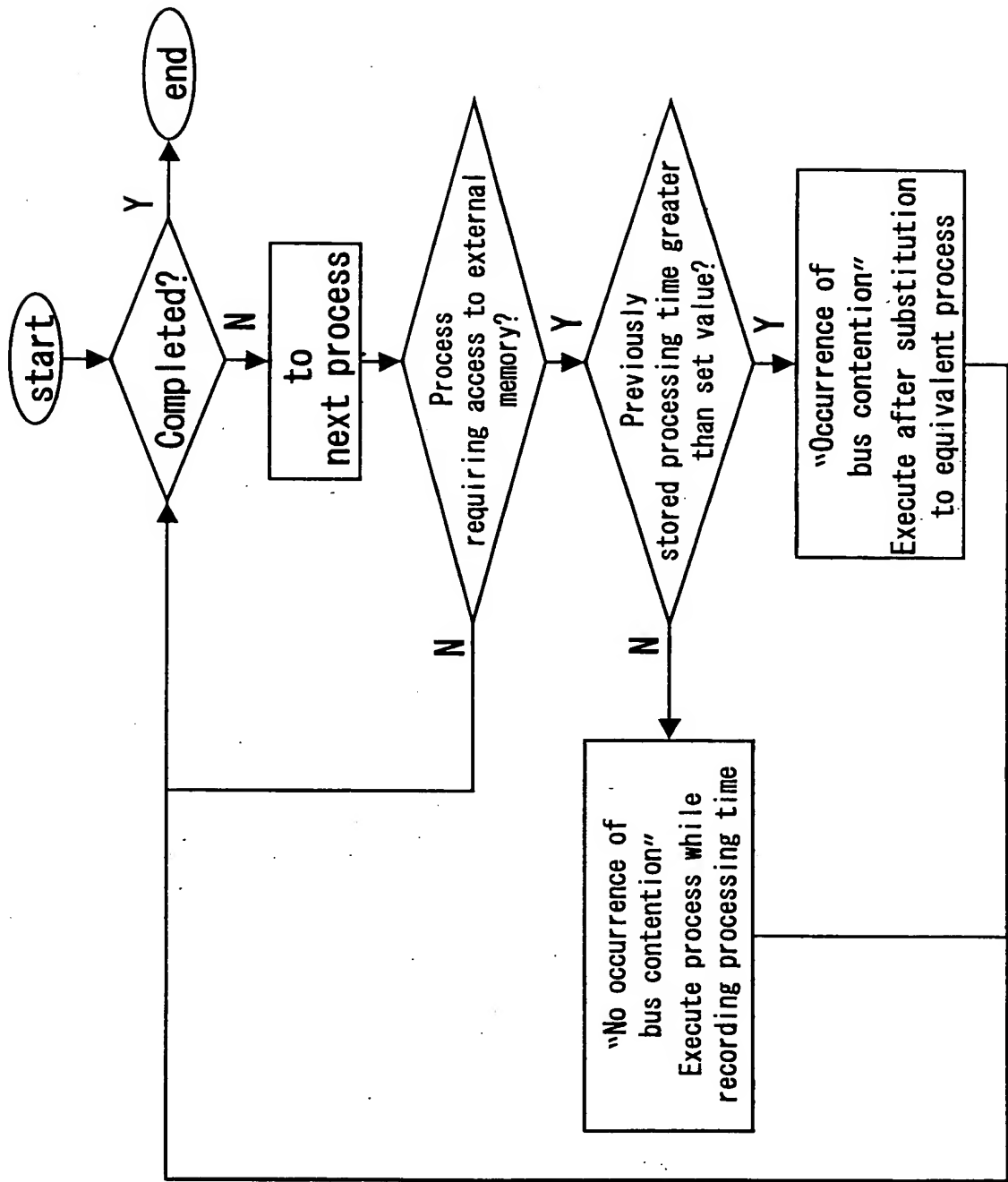


FIG. 13

Processing time Set value	Probability of substitution to equivalent process [%]	Probability of non-substitution to equivalent process [%]
-2.0	60	40
2.0 - 1.8	70	30
1.8 - 1.6	80	20
1.6 - 1.4	90	10
1.4 - 1.2	95	5
1.2 - 1.0	97	3
less than 1	0	100

FIG. 14

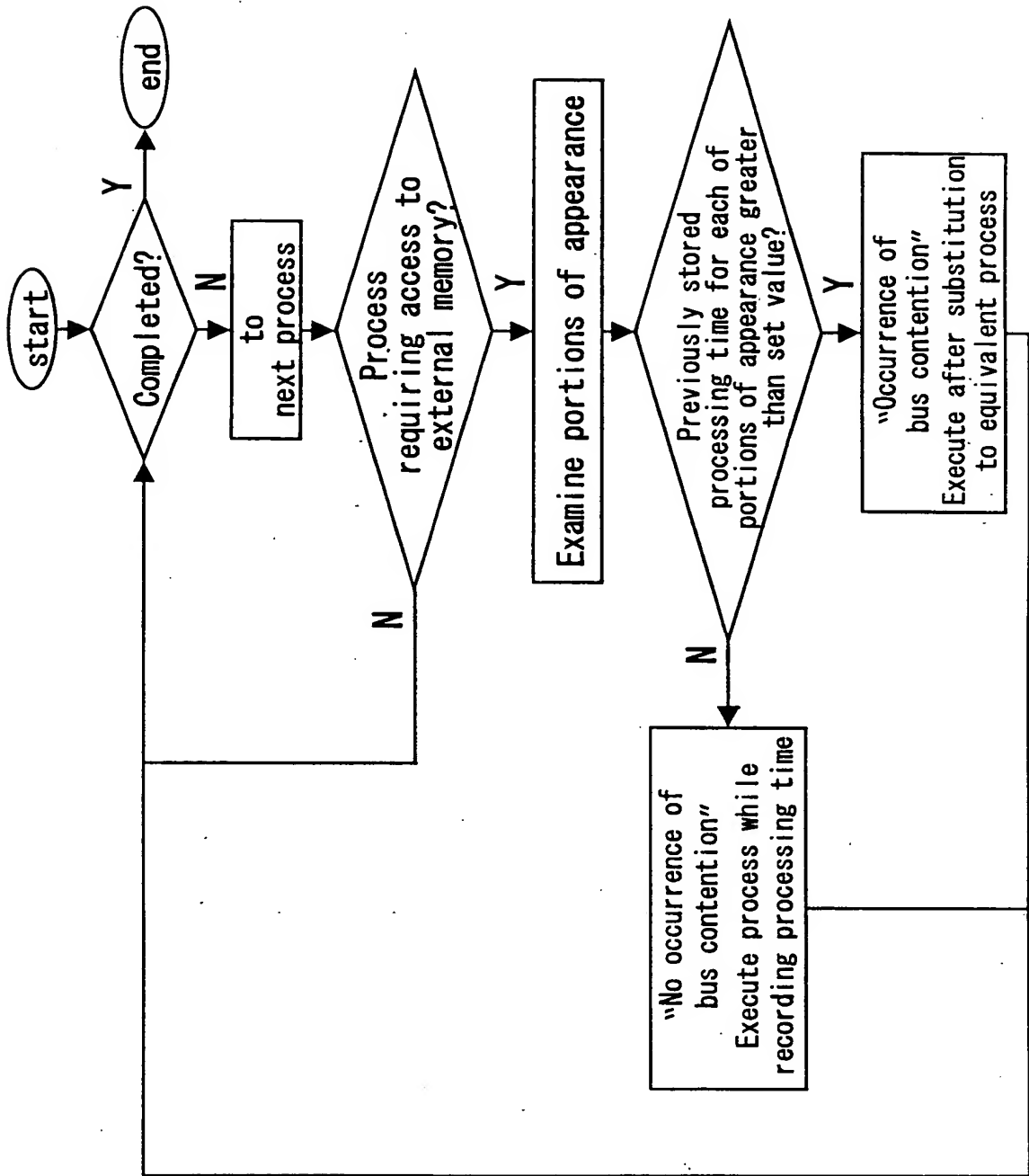


FIG. 15

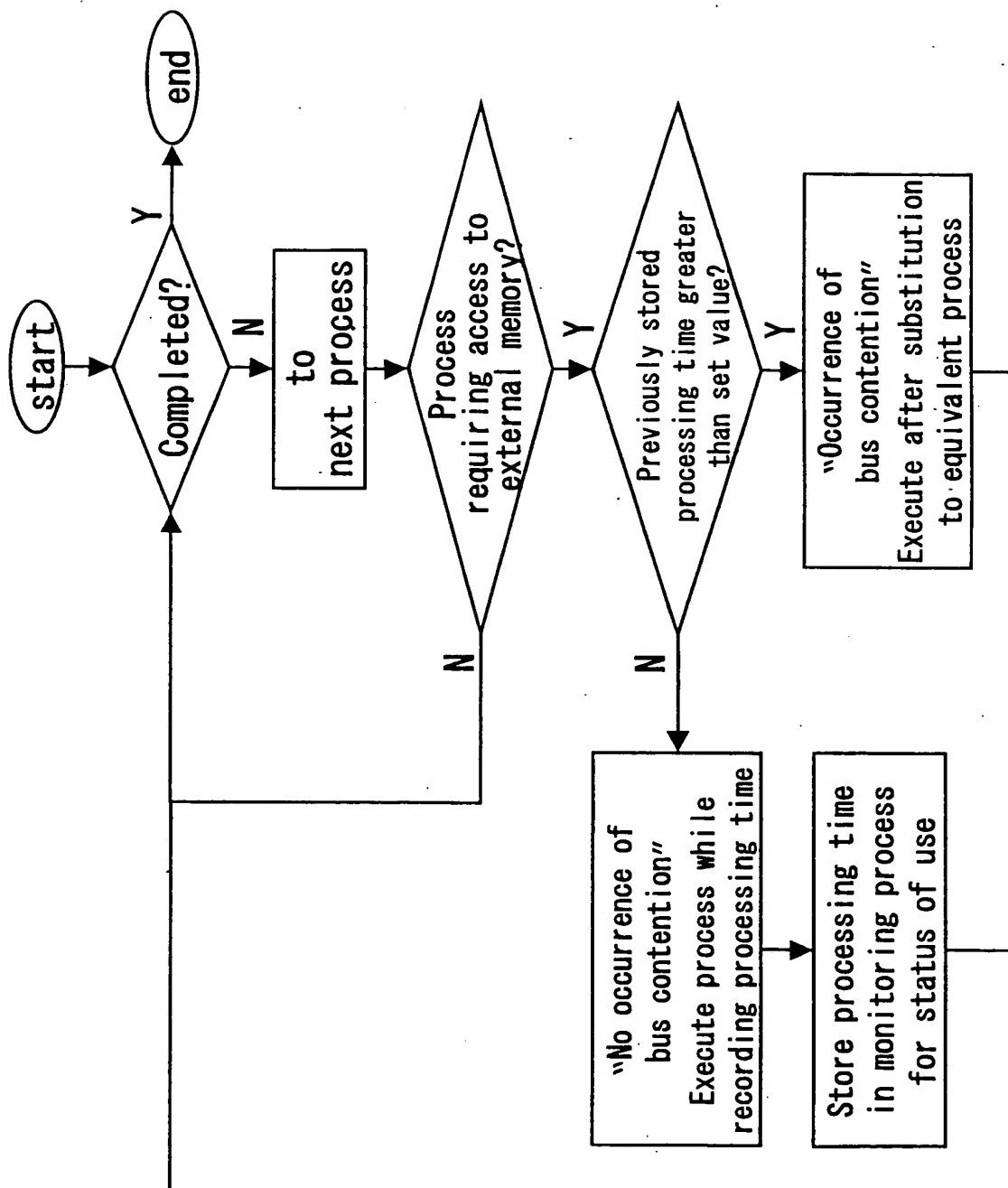


FIG. 16

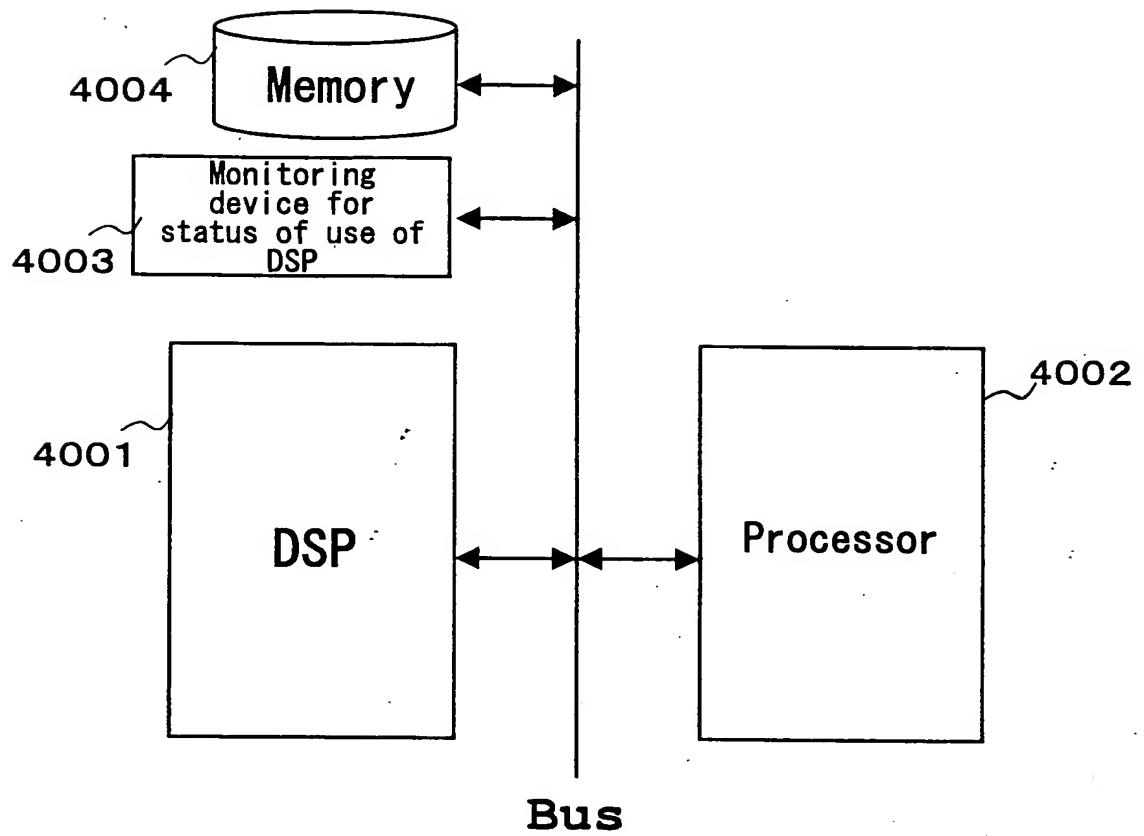


FIG. 17

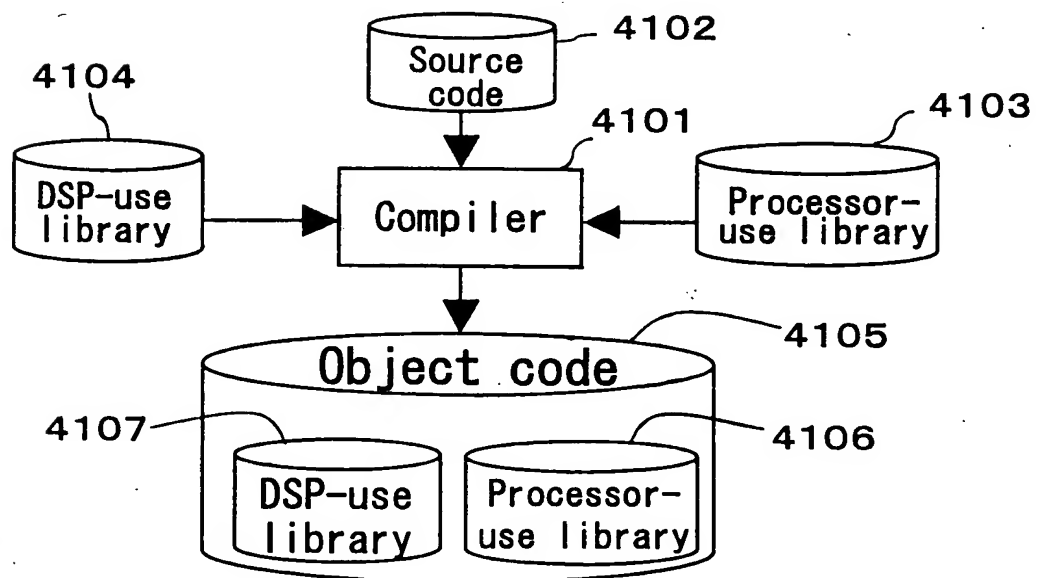


FIG. 18A

```
1: main()  
2: {  
3: :  
4: func1()  
5: :  
6: func2()  
7: :  
8: func3()  
9: :  
10: }
```

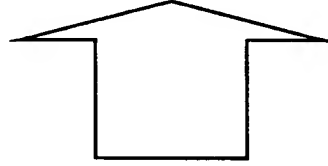


FIG. 18B

```
1: main()  
2: {  
3: :  
4: func1()  
5: :  
6: func2()  
7: {  
8: if(DSP is in waiting state)  
9:     func2_dsp();  
10: else  
11:     func2_cpu();  
12: }  
13: :  
14: func3()  
15: :  
16: }
```



FIG. 19

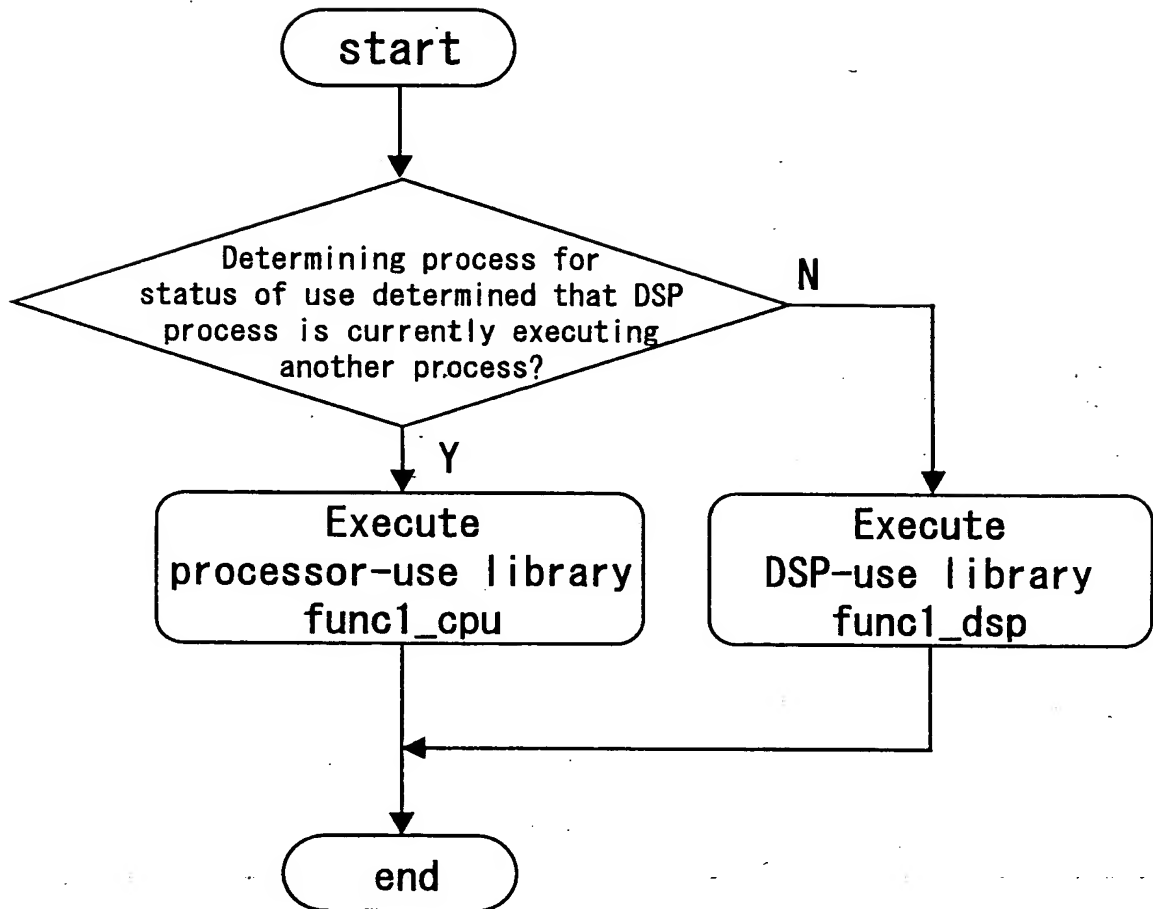


FIG. 20A

No task contention in DSP

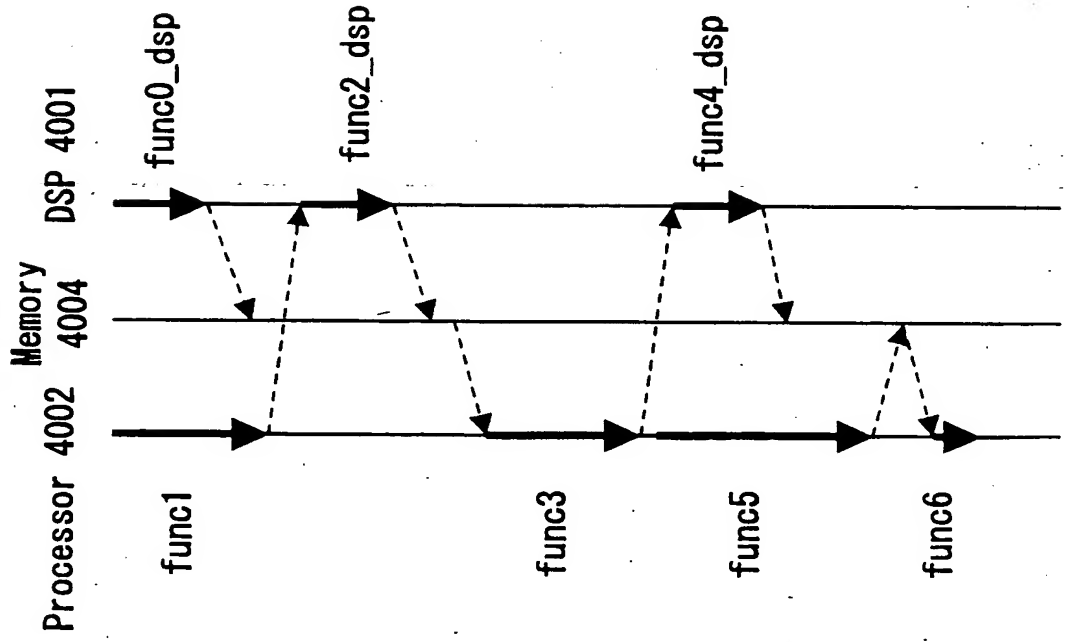


FIG. 20B

Task contention in DSP

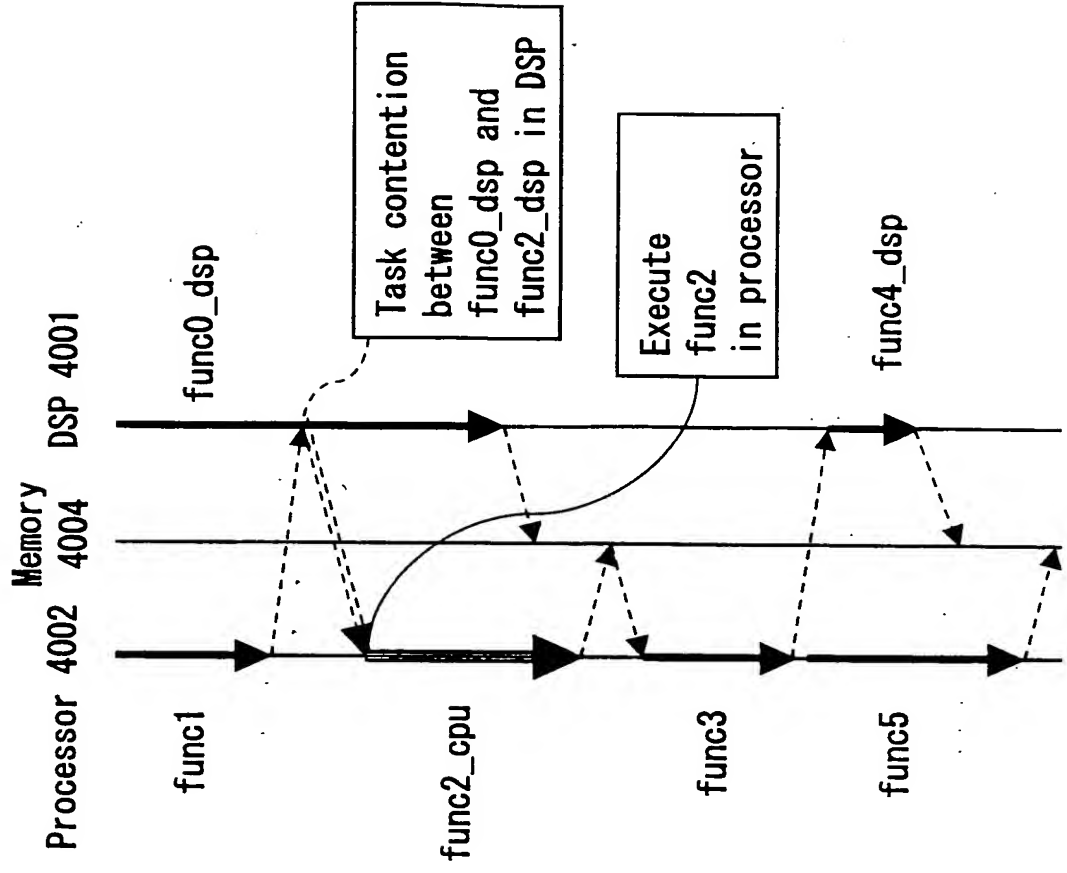


FIG. 21

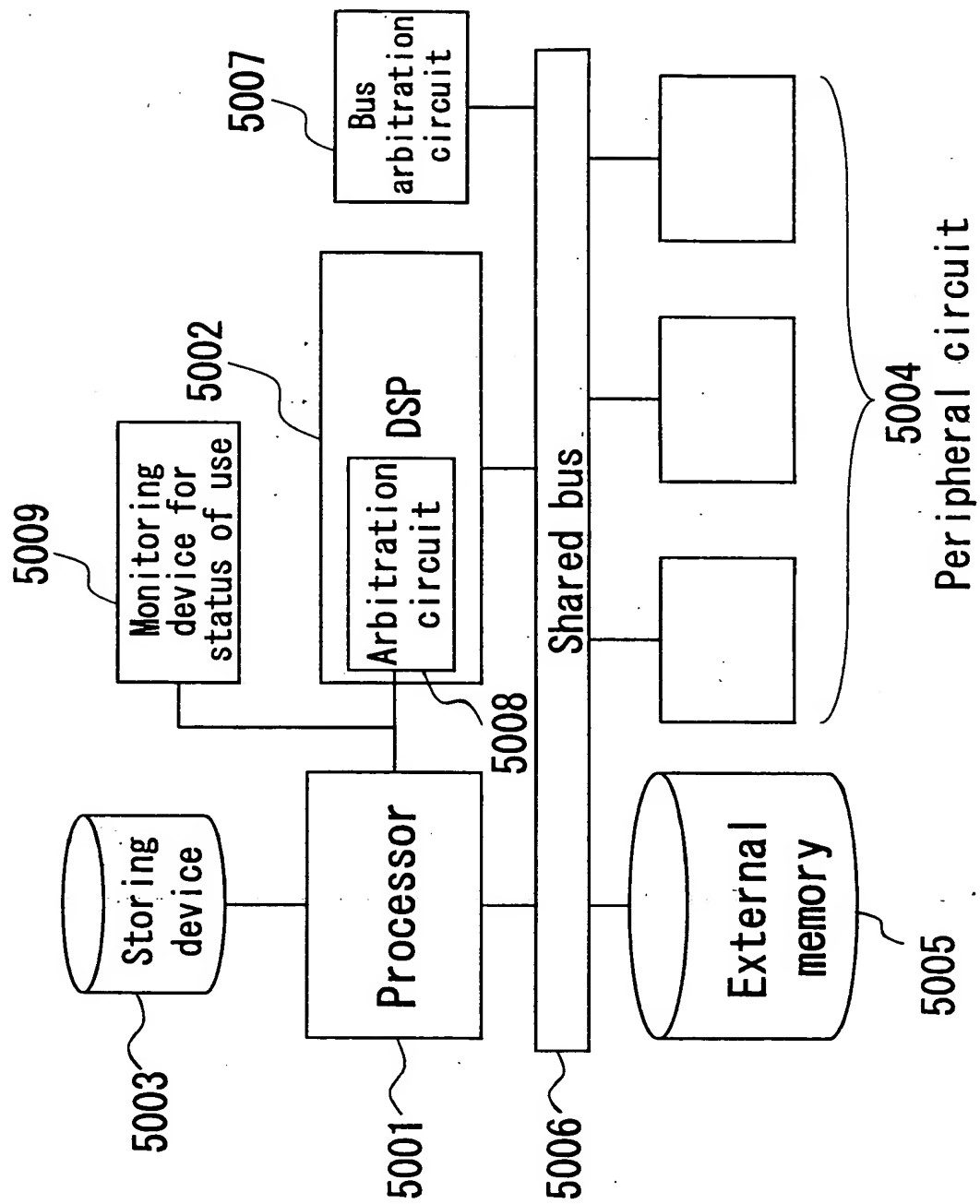


FIG. 22

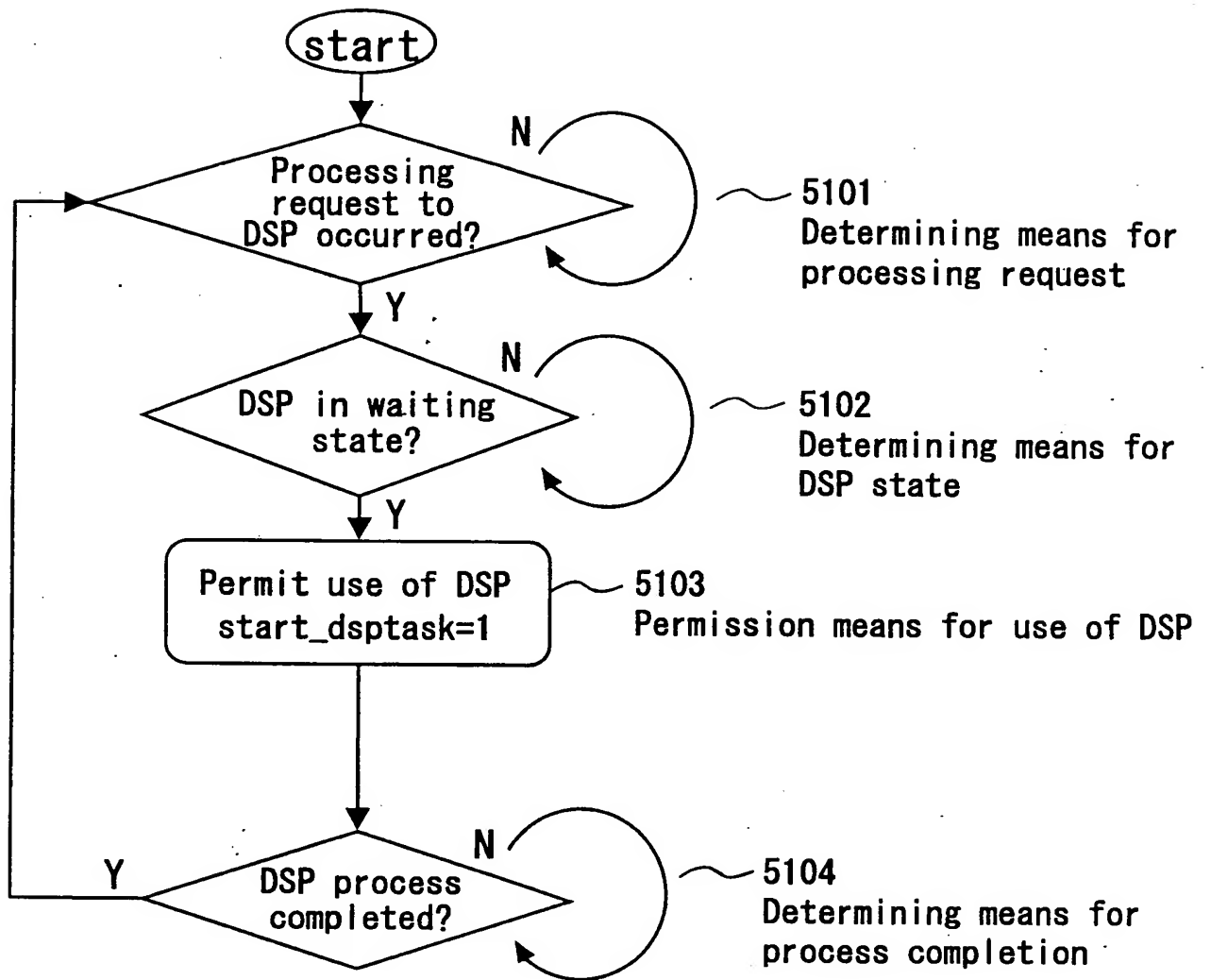


FIG. 23

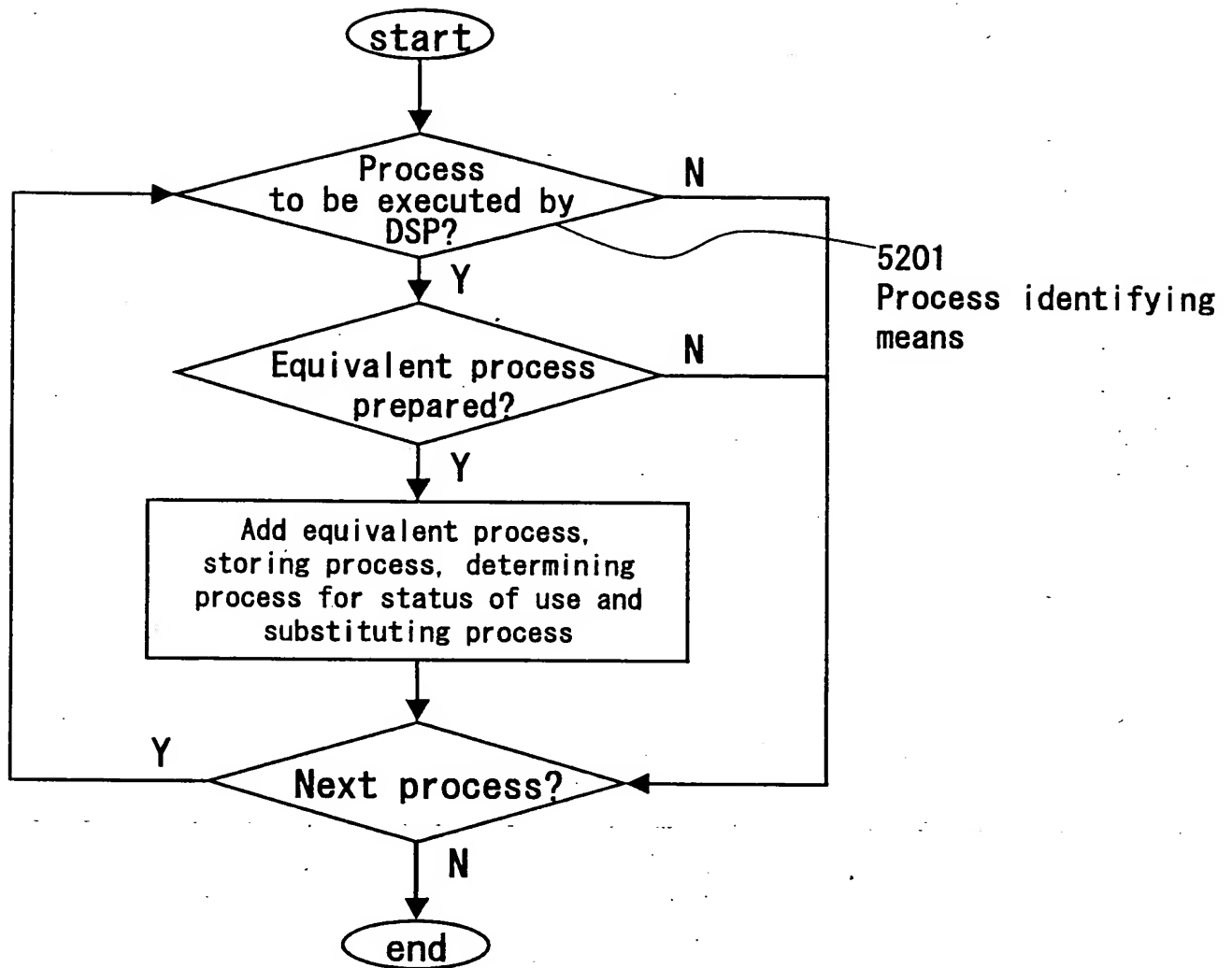


FIG. 24A

```
1: proc_task1() {  
2:     dsp_task();  
3: };
```

Prior to compiler execution

FIG. 24B

```
1: proc_task1() {  
2:     if( wait_time < DEFINED_TIME ) {  
3:         start_time = timer_count;  
4:         Wait until DSP starts process  
5:         end_time   = timer_count;  
6:         wait_time = end_time - start_time;  
7:         dsp_task();  
8:     }  
9:     else{  
10:        proc_dsptask();  
11:    };  
12: };
```

After compiler execution

FIG. 25

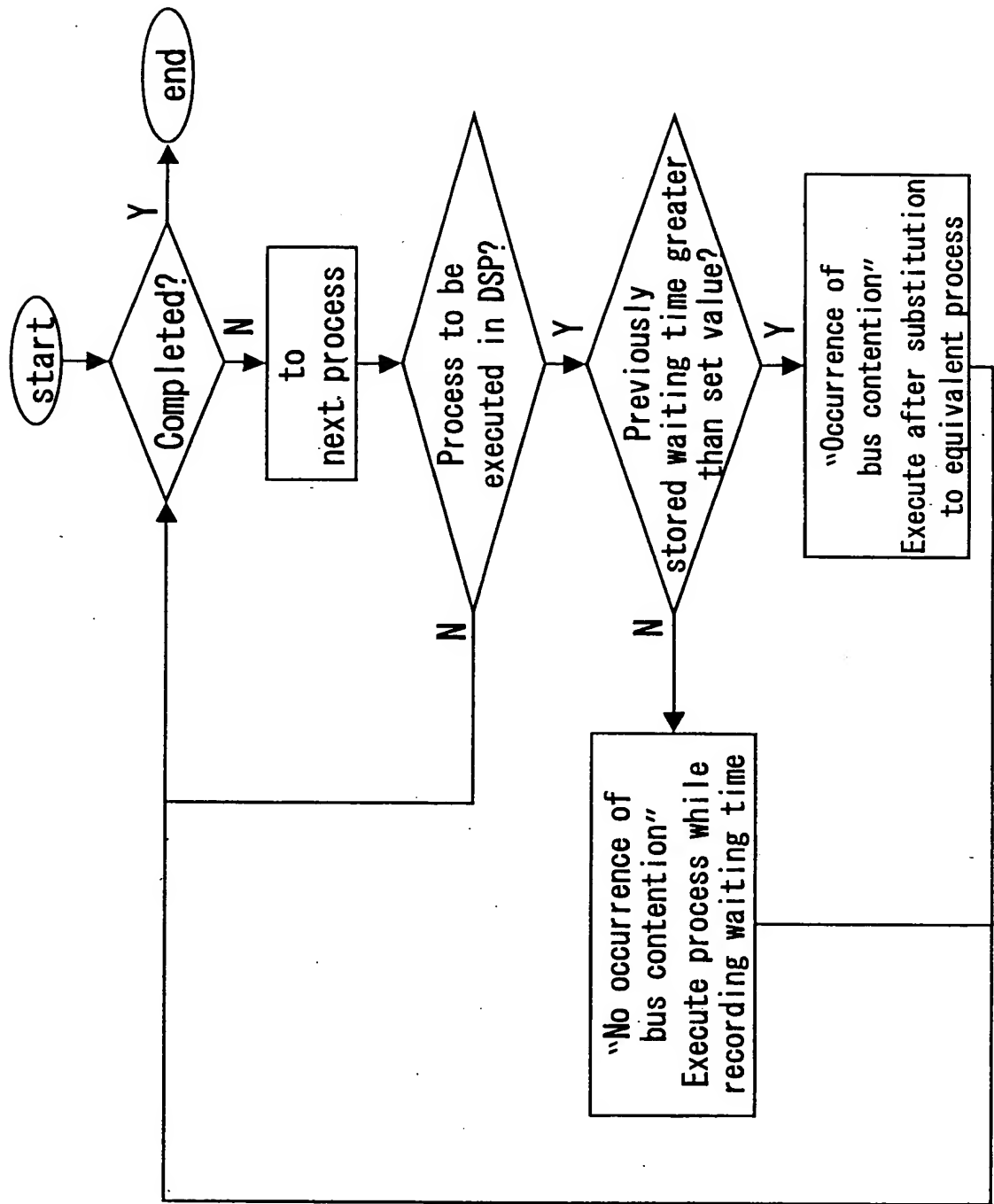


FIG. 26

Processing time Set value	Probability of substitution to equivalent process [%]	Probability of non-substitution to equivalent process [%]
- 2.0	60	40
2.0 - 1.8	70	30
1.8 - 1.6	80	20
1.6 - 1.4	90	10
1.4 - 1.2	95	5
1.2 - 1.0	97	3
less than 1	0	100



FIG. 27

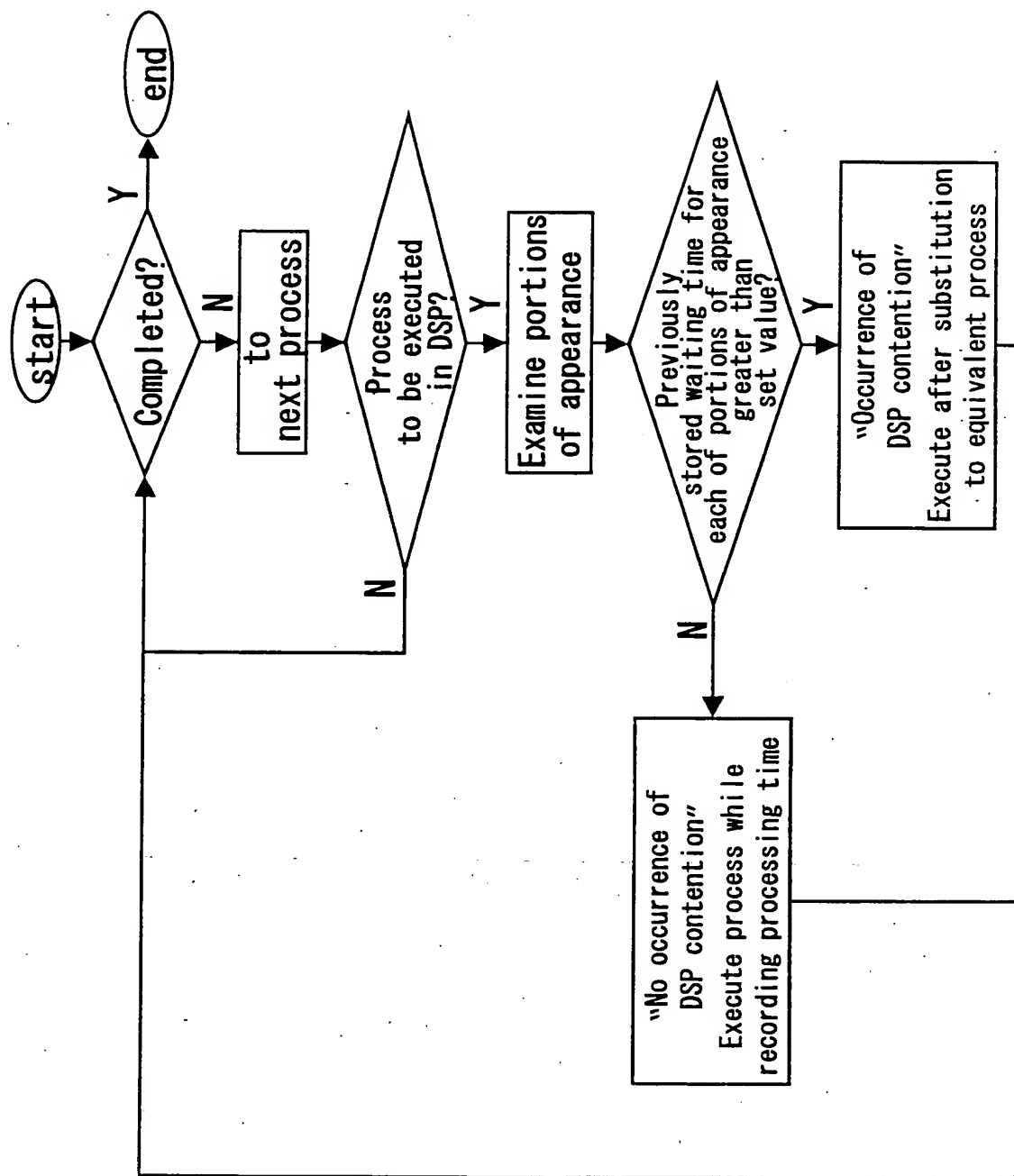


FIG. 28

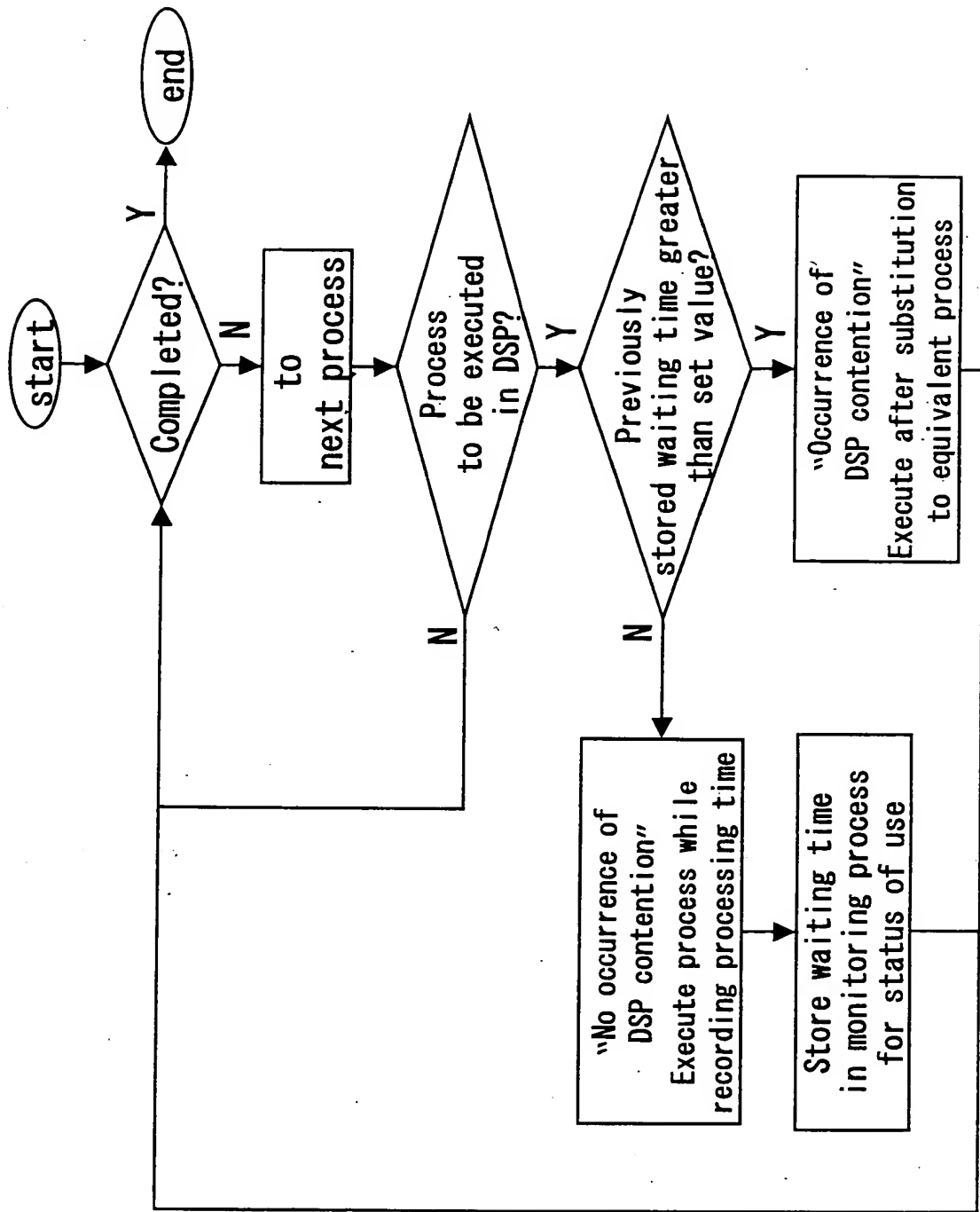


FIG. 29

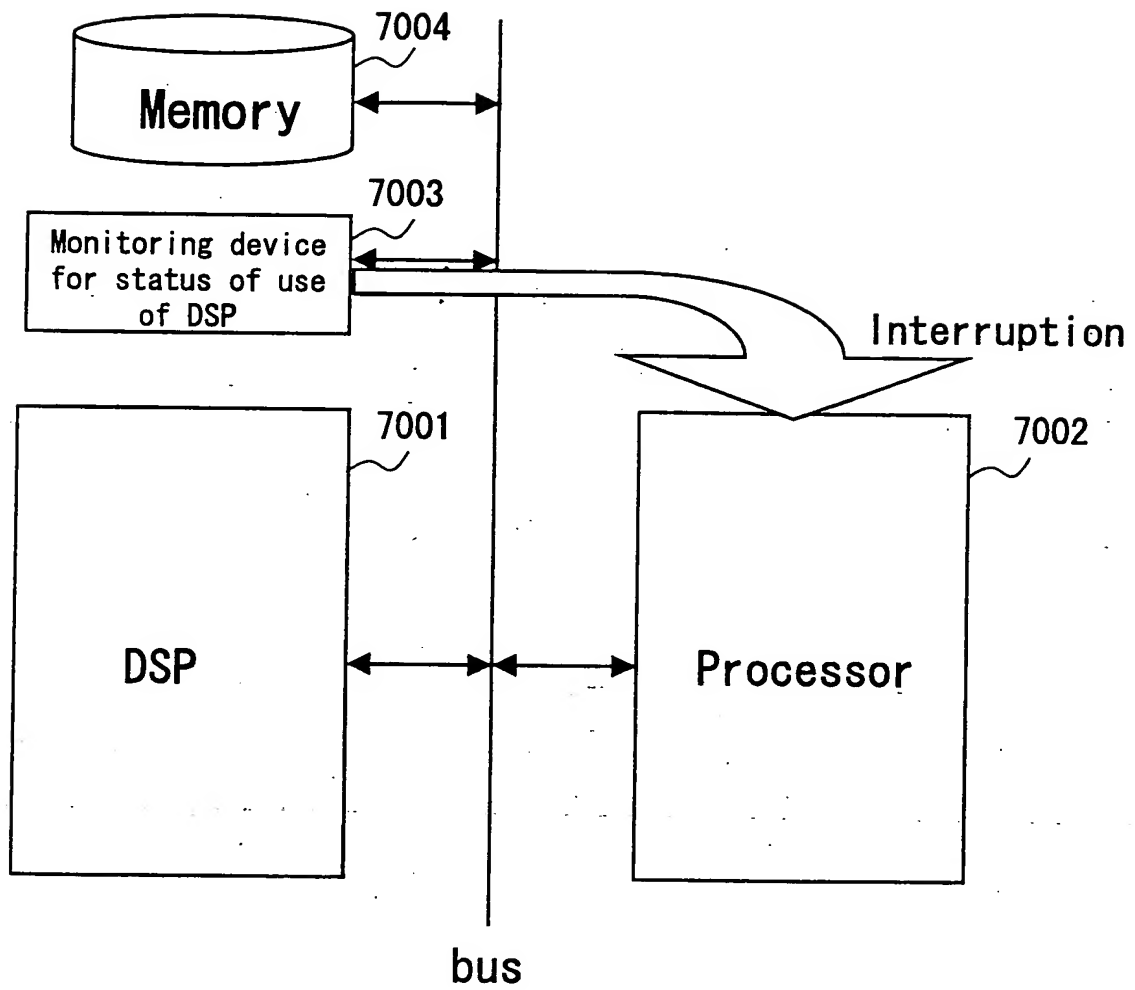


FIG. 30

```
1:  main( )  
2:  {  
3:      :  
4:      func1()  
5:      func2()  
6:      func3()  
7:      func4()  
8:      func5()  
9:      func6()  
10:     func7()  
11:     func8()  
12:     :  
13: }
```

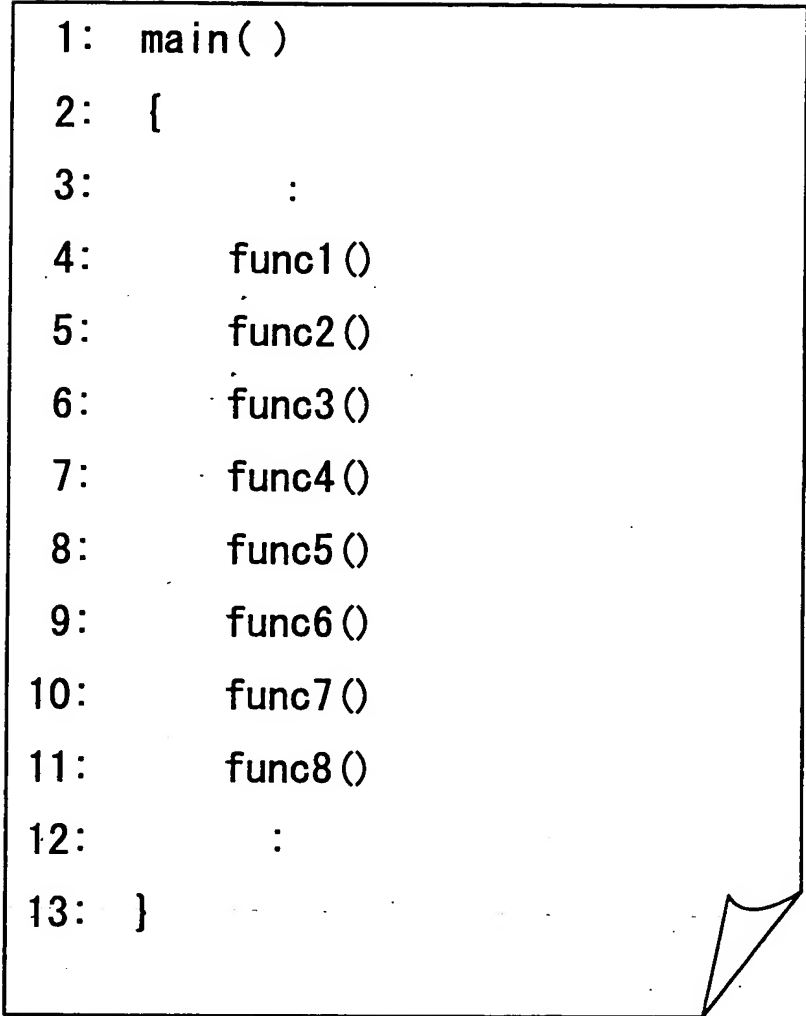


FIG. 31

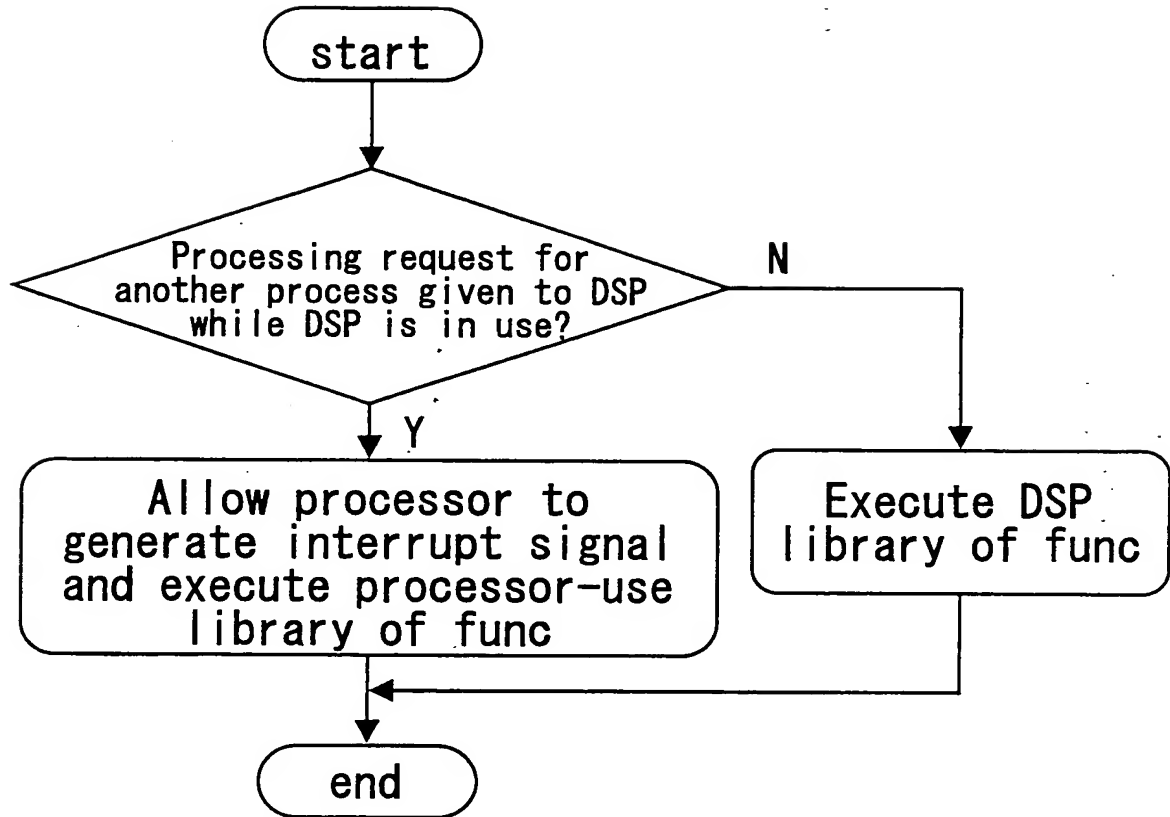


FIG. 32A

No task contention in DSP

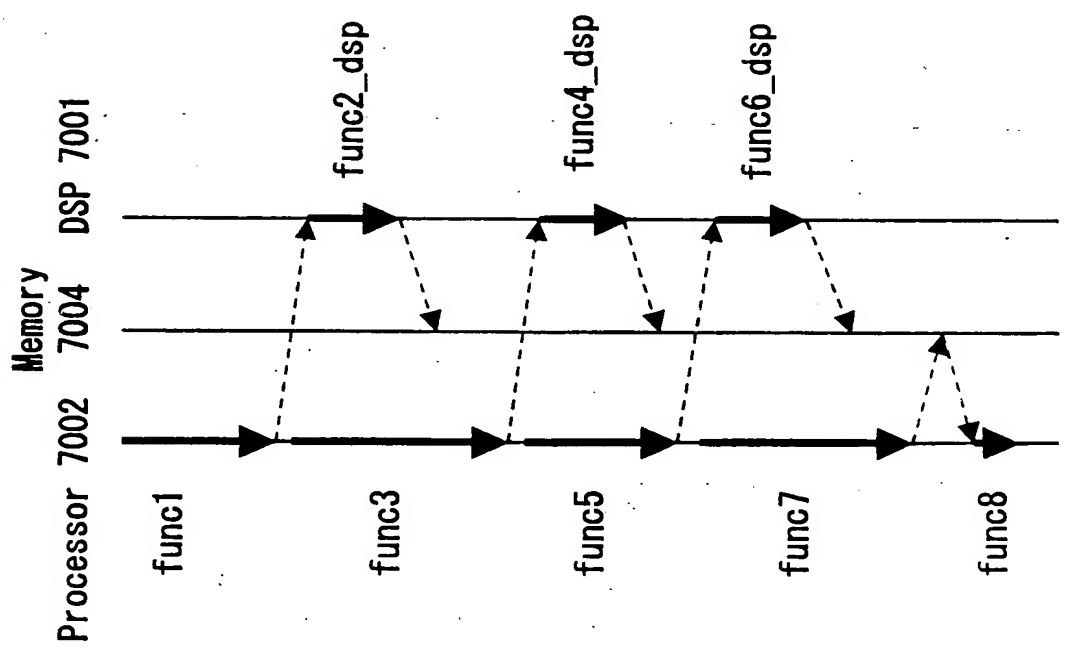


FIG. 32B

Task contention in DSP

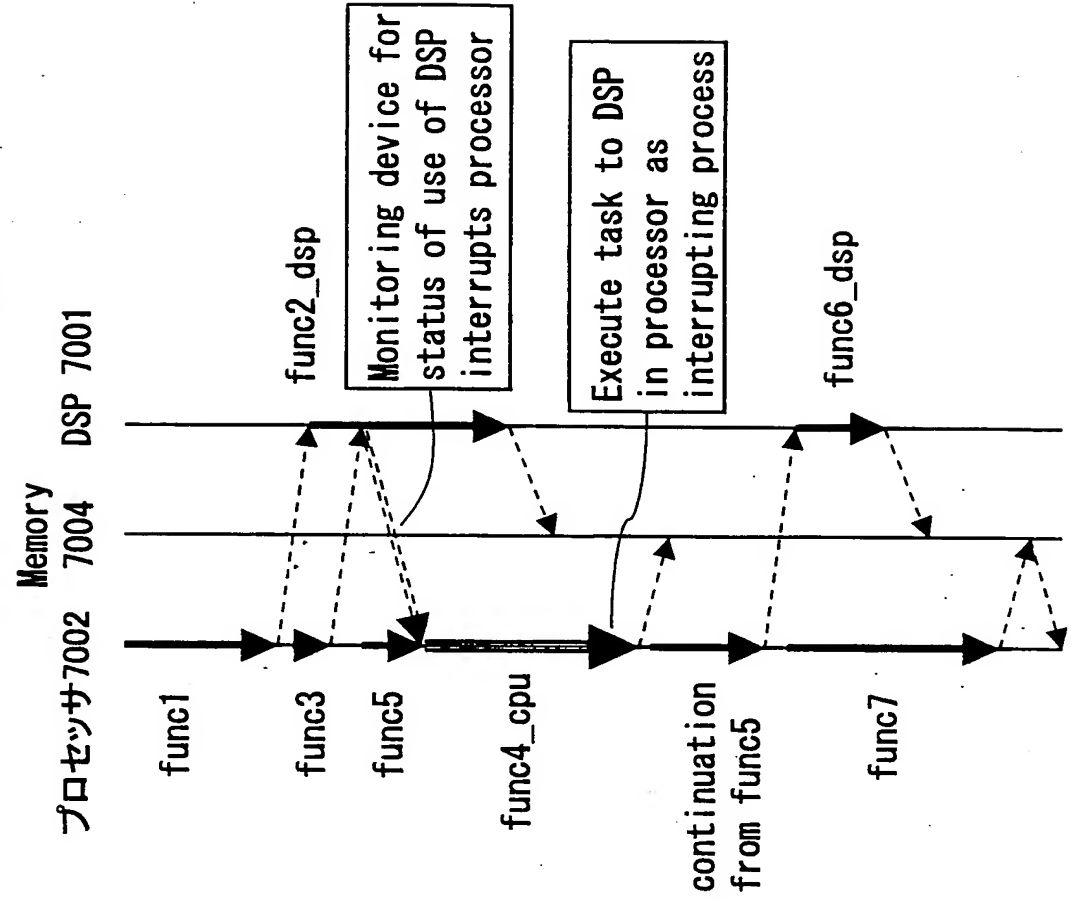


FIG. 33

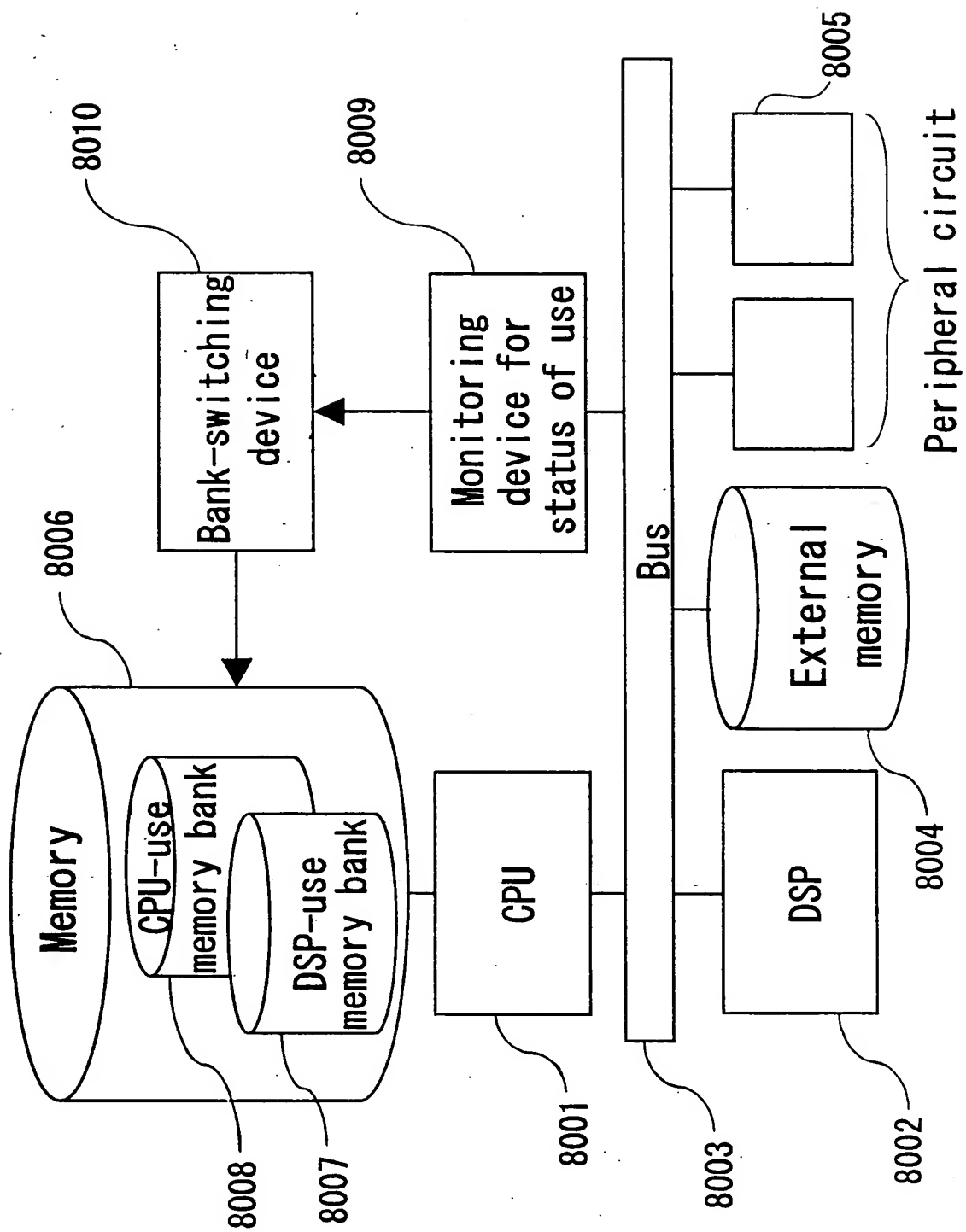


FIG. 34A

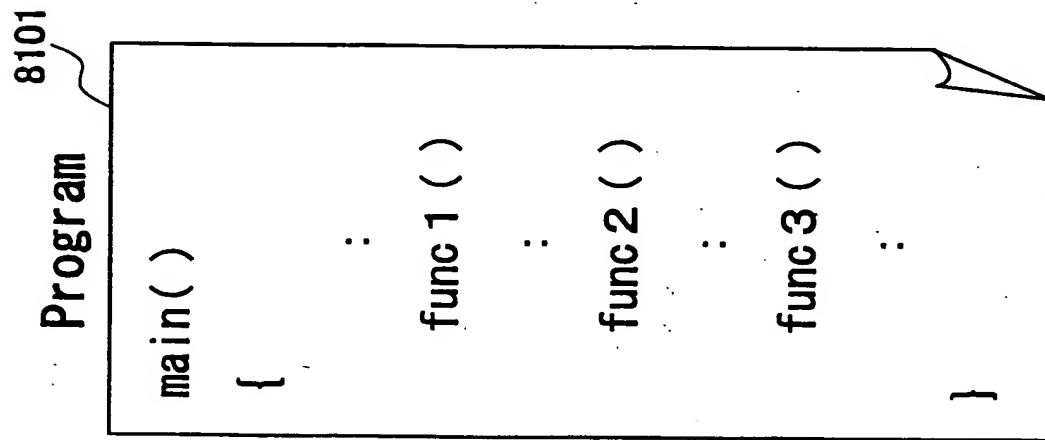


FIG. 34B

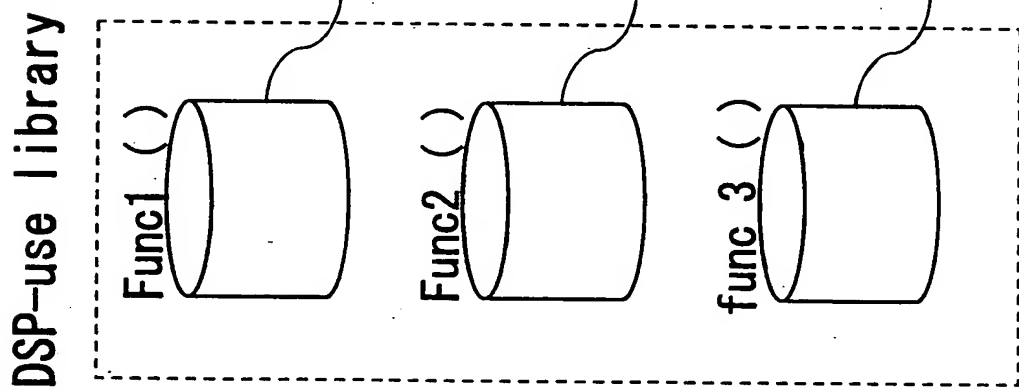


FIG. 34C

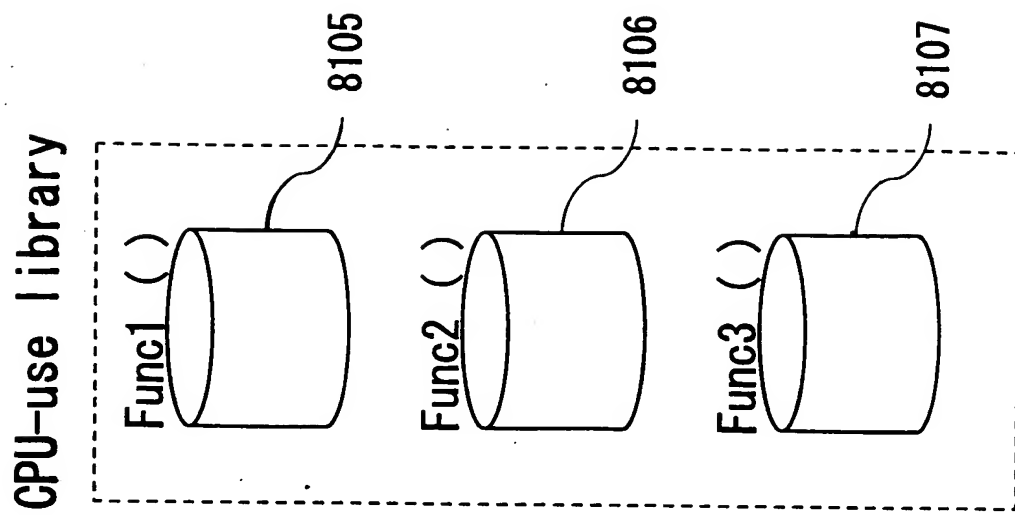




FIG. 35

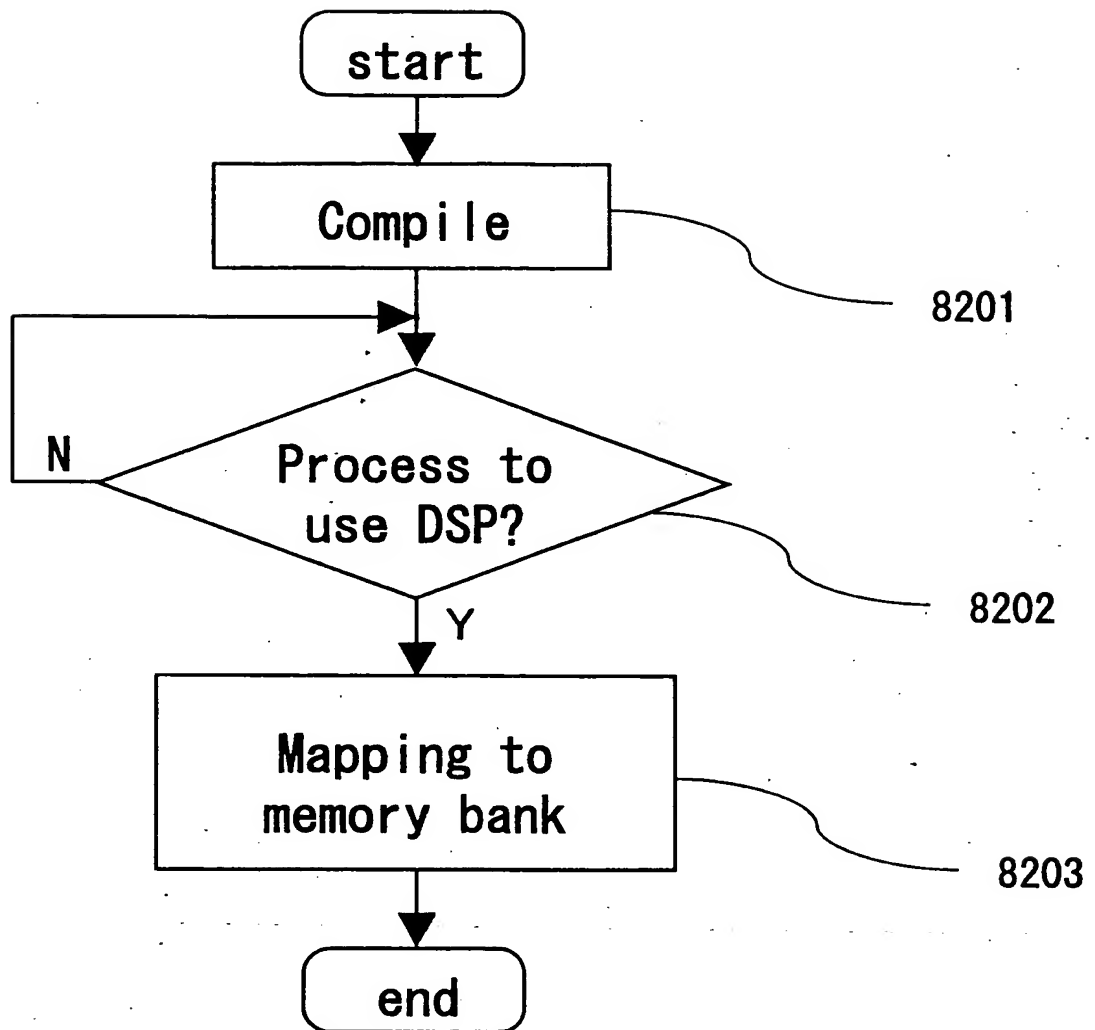


FIG. 36

